ABSTRACT

An integrated OTDR/OSC mechanism for monitoring an optical transport system without disrupting the normal service. The invention combines two essential network components in an integrated mechanism. These components are the mandatory OSC function as part of any DWDM network, and the in-skin, in-service attributes of the OTDR engine. One pair of control wavelengths is sufficient to perform both OSC and OTDR functionalities. In this way, a distributed control function, OTDR procedures, and fiber monitoring is achieved, while trace acquisition from anywhere in the network becomes possible.

By bringing these two essential network components together, the invention allows for superior network management and reduction in maintenance costs. This is primarily due to the fact that the invention allows to use and control the OTDR engine remotely, while the combination with the OSC function allows rapid implementation of the OTDR procedures on operating channels within each fiber of a cable.